VT4 VOLTAGE TESTER

Instruction Manual

MARTINDALE ELECTRIC

⚠ **ALWAYS READ THESE INSTRUCTIONS BEFORE PROCEEDING**

Thank you for buying one of our products. For safety and full understanding of its benefits please read this manual before use. Technical support is available from 01923 441717 and support@martindale-electric.co.uk.

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1 SAFETY INFORMATION

⚠ REMEMBER:
SAFETY IS NO ACCIDENT

These instructions contain both information and warnings that are necessary for the safe operation and maintenance of this product. It is recommended that you read the instructions carefully and ensure that the contents are fully understood. Failure to understand and to comply with the warnings and instructions can result in serious injury, damage or even death.

Particular attention should be paid to the Warnings, Precautions and Technical Specifications.

Please keep these instructions for future reference. Updated instructions and product information are available at: www.martindale-electric.co.uk

1.1 Meaning of Symbols and Markings

⚠ **Caution - risk of danger & refer to instructions**

⚠ **Caution - risk of electric shock**

⧈ **Equipment protected by double or reinforced insulation (Class II)**

CAT IV **(Measurement Category IV)** is applicable to test and measuring equipment connected at the source of the building's low-voltage MAINS installation. For further information on measurement categories visit www.martindale-electric.co.uk/measurement_categories.php

CE **Equipment complies with relevant EU Directives**

End of life disposal of this equipment should be in accordance with relevant EU Directives

1.2 Precautions

This product has been designed with your safety in mind, but please pay attention to the following warnings and cautions before use.

⚠ Warnings

In order to avoid the danger of electrical shock, it is important that proper safety measures are taken when working with voltages exceeding 30V AC rms, 42V AC peak or 60V DC.

Where applicable other safety measures such as the use of protective gloves, goggles etc. should be employed.

The voltage tester must only be used by a skilled and competent person who is familiar with the relevant regulations, the safety risks involved and the consequent normal safe working practices, and under the conditions and for the purposes for which it has been constructed and specified.

Before each use the voltage tester should be examined for damage, cracks, cuts or scratches. **Do not use** if damaged in any way.

Make sure the voltage tester is dry, clean and free from dust, grease and moisture while in use to avoid the danger from electric shock due to surface leakage.

Before and after each use, the voltage tester must be proven using a suitable known good AC voltage source. **Do not use** the voltage tester if it does not function correctly during proving.

Testing for a voltage that exceeds the specified limits of the voltage tester may damage the voltage tester and may expose the operator to a shock hazard. Always check the voltage testers specified limits before use.

Do not use if the battery compartment end cap is not fitted.

Always keep your fingers behind the finger guard.

Do not use the voltage tester during rain or precipitation.

The voltage tester will not detect DC voltage.

⚠ Cautions
Avoid severe mechanical shock or vibration and extreme temperature.

To avoid corrosion from leaking batteries, remove the batteries when the unit is not in use for an extended period.

2. INTRODUCTION

2.1 Inspection
Examine the shipping carton for any sign of damage. Inspect the unit and any accessories for damage. If there is any damage then consult your distributor immediately.

2.2 Description
The Martindale VT4 is a non-contact voltage tester with the following features:

- Contactless voltage testing between 12V and 1000V
- Manual voltage sensitivity range selection: 12-1000V and 50-1000V
- Use of advanced digital filter technology for reliable indication
- Torch
- Auto power off
- Measurement category CAT IV 1000V
- Designed to meet BS EN 61010-1
- IP64 rating to BS EN 60529

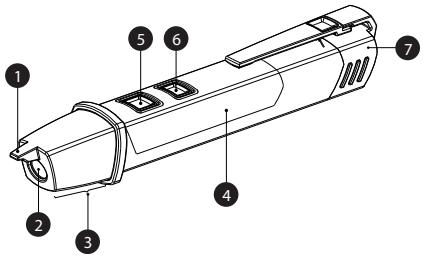
2.3 Accessories
The VT4 comes with the following accessories:

- 2 x 1.5V Alkaline AAA batteries
- Instructions

2.4 Battery Installation
Refer to Section 4.1 (Battery Replacement) for the battery installation instructions for the VT4.

3. OPERATION

3.1 VT4 Layout



1. Test tip for voltage test
2. Torch
3. LED illumination area
4. Hand grip area
5. On/Off and voltage sensitivity range button
6. Torch button
7. Battery compartment end cap

3.2 ON/OFF and Voltage Sensitivity Range Button

Pressing the ON/OFF button (5) for 1 second will turn on the VT4. The red LED in the LED illumination area (3) will flash at a rate of once a second to indicate the unit is activated.

The VT4 will default to the 50 to 1000V voltage sensitivity range.

To change the voltage sensitivity range to 12V to 1000V, press the voltage sensitivity range button (5) for less than 1 second. The red LED in the LED illumination area (3) will now double flash at a rate of once a second.

To power off the unit press the ON/OFF button (5) for at least 2 seconds. The flashing red LED will cease.

The unit will auto power off after 5 minutes.

3.3 Low Battery Indication

If the red LED illuminates continuously without the buzzer sounding, the batteries require replacing as reliable indication can no longer be guaranteed. Refer to Section 4.1 (Battery Replacement).

3.4 Torch

To turn on the torch (2), press and hold the torch button (6).

3.5 Proving Check

Before each use the voltage tester should be examined for cracks or any other damage. If there is any doubt the voltage tester should **not be used.**

Before and after use, verify the voltage tester is functioning correctly using a known good AC voltage source. The AC voltage source must be within the specified range of the voltage tester.

When the test tip (1) is held in close proximity to the voltage source, the red LED must illuminate and the buzzer must sound as in table 1, for the selected voltage sensitivity range setting.

Table 1

Voltage sensitivity range	Red LED	Buzzer
12V to 1000V	Flashing	Pulsed
50V to 1000V	Continuous	

Do not use the voltage tester if it does not function correctly during proving.

Warning
If the voltage source exceeds the specified limits of the voltage tester the voltage tester may be damaged and the operator may be exposed to a shock hazard. Always check the voltage magnitude of the voltage source before proceeding with a proving check.

3.6 Testing Considerations

From some directions the neutral and earth conductors in cables will shield the live, so it is important that a cable is probed from all directions.

When testing for the presence of voltage in multi-core cables always run the probe tip along a short length of cable so as to overcome the shielding effect of the natural twist in conductors.

Be aware that if the presence of AC voltage is not indicated, voltage could still be present. The unit indicates active voltages in the presence of electrostatic fields. If the field strength is low the unit may not indicate. This could be due to factors such as:

- Low mains voltage (<12V AC)
- Shielded wire/cables
- Thickness and types of insulation
- Distance from the voltage source

If testing at locations with high background noise levels, always determine whether the buzzer is perceptible before relying solely on the buzzer indication.

3.7 Testing for the Presence of Voltage

Non-contact voltage testers are not suitable to determine if a circuit is **not** hazardous live. A double pole voltage test should always be used for that purpose.

Referring to section 3.2 power on the VT4 and set it to the required voltage sensitivity range.

The voltage tester must be gripped fully and firmly around the hand grip to obtain optimum and consistent sensitivity. A loose grip during testing may reduce the voltage tester's sensitivity.

While taking all required safety precautions position the test tip (1) of the VT4 in close proximity to the cable, UUT or location to be tested for voltage.

If a voltage is detected, the red LED will illuminate and the buzzer will sound as in table 1 for the selected voltage sensitivity range setting.

Switch the tester off when not in use to conserve battery power.

4. MAINTENANCE

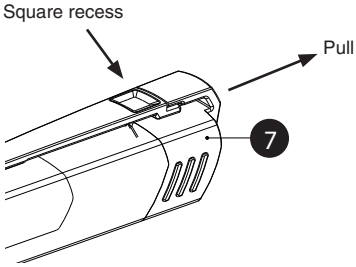
4.1 Battery Replacement

To gain access to the battery compartment, press down on the square recess and pull back the battery compartment end cap (7).

Fit 2 new 1.5V, AAA alkaline batteries (IEC LR03, NEDA 24A), observing correct polarity.

Replace the battery compartment end cap.

Note: Do not mix old and new batteries.



4.2 Cleaning

Warning

To reduce the risk of surface leakage, this instrument must be kept in a clean condition.

If contamination is found, clean with a damp soft cloth and if necessary a mild detergent or alcohol. Do not use abrasives, abrasive solvents, or detergents which can cause damage to the unit. If a mild detergent is used, the unit should subsequently be thoroughly cleaned with a water dampened soft cloth. After cleaning, dry and allow to remain in a dry environment for 2 hours before use.

4.3 Repair and Service

There are no user serviceable parts in this unit. Return to Martindale Electric if faulty. Our service department will quote promptly to repair any fault that occurs outside the guarantee period.

Before the unit is returned, please ensure that you have checked the unit and batteries.

4.4 Storage Conditions

The instrument should be kept in warm dry conditions away from direct sources of heat or sunlight, and in such a manner as to preserve the working life of the unit. It is strongly advised that the unit is not kept in a tool box where other tools may damage it.

5. WARRANTY AND LIMITATION OF LIABILITY

This Martindale product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is 2 years and begins on the date of receipt by the end user. This warranty extends only to the original buyer or end-user customer, and does not apply to fuses, disposable batteries, test leads or to any product which, in Martindale's opinion, has been misused, altered, neglected, contaminated, or damaged by accident or abnormal conditions of operation, handling or storage.

Martindale authorised resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Martindale.

Martindale's warranty obligation is limited, at Martindale's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to Martindale within the warranty period.

This warranty is the buyer's sole and exclusive remedy and is in lieu of all other warranties, expressed or implied, including but not limited to any implied warranty of merchantability or fitness for a particular purpose. Martindale shall not be liable for any special, indirect, incidental or consequential damages or losses, including loss of data, arising from any cause or theory.

Since some jurisdictions do not allow limitation of the term of an implied warranty, or exclusion or limitation of incidental or consequential damages, the limitations and exclusions of this warranty may not apply to every buyer. If any part of any provision of this warranty is held invalid or

unenforceable by a court or other decision-maker of competent jurisdiction, such holding will not affect the validity or enforceability of any other provision or other part of that provision.

Nothing in this statement reduces your statutory rights.

Specification
VT4 Voltage Tester

Electrical
Maximum voltage: 1000V AC rms
Voltage sensitivity ranges:
12 to 1000V AC rms
50 to 1000V AC rms (default range)
Frequency range: 50 to 400Hz

Environmental
Temperature & Humidity (Operating & Storage):
0°C to 40°C ≤ 80% R.H.
Altitude: up to 2000m
Pollution degree 2

General
Power: 2 x 1.5V, AAA alkaline batteries (IEC LR03, NEDA 24A)
Battery consumption: 80mA approx.
Dimensions: 155(L) x 23(W) x 25(D) mm
Weight: 55g approx.
Includes: 2 x 1.5V AAA batteries, instructions

Safety
Conforms to BS EN61010-1:2010 CAT IV 1000 V
Class II, Double insulation
IP rating: IP64 to BSEN 60529

EMC
Conforms to BS EN61326-1

Check out what else you can get from Martindale:

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- Phase Rotation Testers
- Proving Units
- Socket Testers
- Thermometers & Probes
- Test Leads
- Voltage Indicators
- Specialist Metrohm Testers (4 & 5kV)
- Specialist Drummond Testers

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